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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,334	09/26/2003	Doo-sik Joo	1349.1282	5124
21171	7590	10/10/2007		
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER SINGH, SATWANT K	
			ART UNIT	PAPER NUMBER
			2625	
			MAIL DATE	DELIVERY MODE
			10/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/670,334

Applicant(s)

JOO, DOO-SIK

Examiner

Satwant K. Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>05/05/04, 10/06/05, 07/16/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 9 is objected to because of the following informalities: The claim ends with a semi-colon and not a period. Appropriate correction is required.
2. Claims 9 and 11 are objected to because of the following informalities: Claims 9 and 11 are dependent on Claim 7. It appears to the examiner that these claims should be dependent on claim 8. Appropriate correction is required.
3. Claims 18 and 19 are objected to because of the following informalities: Claims 18 and 19 are dependent on Claim 11. It appears to the examiner that these claims should be dependent on claim 17. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7 and 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawaguchi et al. (US 2002/0126192).
6. Regarding Claim 1, Hanabusa et al discloses an image printing apparatus, comprising: at least one pair of feeding rollers disposed in pairs in a vertical direction at a predetermined interval to feed a sheet of recording paper picked up by a pickup roller

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along a sheet feeding path (Fig. 3, sheet feeding roller 28) (pages 2 and 3, paragraph [0035]); a document position sensor to detect whether the sheet picked up by the pickup roller reaches a set reference position (PE sensor) (page 4, paragraph [0044]); a storage unit to store information about the position of the sheet at which a white line would be produced (EEPROM) (page 6, paragraph [0076]), wherein the storage unit stores the information regarding sheet size (PE sensor detect back end of the print sheet) (page 6, paragraph [0075]); a printing part to print an image as the sheet is fed into a printing area (carriage portion 5) (page 4, paragraph [0044]); and a control unit (Fig. 7, control section) to control a feeding rate of the feeding rollers using the information stored in the storage unit about the white line producing position of the sheet (nip position), wherein the sheet is fed at an initially set feeding rate starting when the sheet is detected to have reached the set reference position by the document position sensor until the white line would be produced (quantity of rotations on the basis of a signal from the encoded sensor), and the sheet is fed at a different feeding rate from the initially set feeding rate starting from the time when the white line would be produced on the sheet (quantity of transportation for the print sheet P per operation is used immediately after the determination is set twice the quantity of transportation for the six pass printing) (page 6, paragraph [0069]).

7. Regarding Claim 2, Kawaguchi et al disclose an image printing apparatus, wherein the control unit stops driving the feeding rollers for a predetermined period of time starting from the time when the white line would be produced on the sheet (PE sensor detects back end of the print sheet) (page 6, paragraphs [0075]-[0076]).

8. Regarding Claim 3, Kawaguchi et al disclose an image printing apparatus, wherein the control unit controls the feeding rate of the feeding rollers such that the sheet is fed at a feeding rate of the feeding rollers less than the initially set feeding rate for a predetermined period of time starting from the time when the white line would be produced on the sheet (speed of transportation) (page 6, paragraphs [0075]-[0076]).

9. Regarding Claim 4, Kawaguchi et al disclose a white line compensation method of an image printing apparatus having a pickup roller, comprising: storing information via a storage unit regarding sheet sizes of a sheet of paper and information in relation to position of the sheet of paper at which a white line would be produced (accurate position information obtained and written to EEPROM) (page 6, paragraph [0076]); feeding the sheet picked up by the pickup roller along a set sheet feeding path; detecting whether the sheet reaches a set reference position (PE sensor) (page 4, paragraph [0044]); and upon detecting that the sheet has reached the set reference position, controlling a sheet feeding rate by using the information in relation to a position of the sheet at which the white line would be produced depending on the sheet size information (quantity of transportation for the print sheet P per operation is used immediately after the determination is set twice the quantity of transportation for the six pass printing) (page 6, paragraph [0069]).

10. Regarding Claim 5, Kawaguchi et al disclose a white line compensation method, wherein the control operation stops driving the feeding rollers for a predetermined period of time starting from the time when the white line would be produced on the

sheet (PE sensor detects back end of the print sheet) (page 6, paragraphs [0075]-[0076]).

11. Regarding Claim 6, Kawaguchi et al disclose a white line compensation method, wherein the control operation feeds the sheet at a feeding rate of the feeding rollers less than the initially set feeding rate for a predetermined period of time starting from the time when the white line would be produced on the sheet (speed of transportation) (page 6, paragraphs [0075]-[0076]).

12. Regarding Claim 7, Kawaguchi et al disclose a white line compensation method, wherein the control unit determines via the document position sensor that the sheet reaches the set reference position and controls the sheet to be fed at an initially set feeding rate when the sheet is detected to have reached at the set reference position until the time when the white line would be produced (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

13. Regarding Claim 15, Kawaguchi et al disclose an image printing apparatus, wherein the control unit predicts the time when the white line is produced on the sheet by using the sheet size information (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

14. Regarding Claim 16, Kawaguchi et al disclose an image printing apparatus, wherein the control unit continues to feed the sheet at the initially set feeding rate after the predetermined period of time lapses (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

15. Regarding Claim 17, Kawaguchi et al disclose a white line compensation method of an image printing apparatus, comprising: detecting whether a sheet of paper fed along a sheet feeding path reaches a set reference position (PE sensor) (page 4, paragraph [0044]); driving the sheet along the sheet feeding path upon determining that the sheet has reached the set reference position in accordance with an initially set feeding rate (rollers transport printing sheet to a row position to be printed) (page 4, paragraph [0049]); and changing the initially set feeding rate for a predetermined period of time starting from a time when the white line would be produced on the sheet (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]); and jetting ink upon the sheet via an ink cartridge when the sheet reaches a printing area (printing heads are driven to eject the ink to the printing sheet) (page 4, paragraph [0049]).

16. Regarding Claim 18, Kawaguchi et al disclose a white line compensation method, further comprising stopping feeding of the sheet of paper for a predetermined period of time starting from the time when the white line would be produced on the sheet of paper (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

17. Regarding Claim 19, Kawaguchi et al disclose a white line compensation method, wherein after a predetermined period of time lapses, the sheet of paper is fed in accordance with the initially set feeding rate (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

***Claim Rejections - 35 USC § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi in view of Murakami (US 6,741,372).

20. Regarding Claim 8, Kawaguchi et al teaches an image printing apparatus in a multi-function machine, comprising: a storage unit to store information in relation to a position at which a white line would be produced in accordance with the size of a sheet of paper (accurate position information obtained and written to EEPROM) (page 6, paragraph [0076]); a scanning unit to scan data printed on the sheet (printing heads perform scanning operation) (page 4, paragraph [0044]); a control unit to check if information regarding the size of the sheet queuing to print is input through the input part (PE sensor lever operated to detect the front end of the printing sheet), and upon determining that information on the size of the sheet is input, the control unit uses the size information to recognize a position of the sheet at which a white line would be produced (based on the result of the detection, printing position on the printing sheet can be determined) (page 4, paragraph [10044]).

Kawaguchi et al fails to teach an image printing apparatus, comprising: an interface unit to receive printing data transmitted from an external device; an operating panel to support character and/or number inputs to enable various functions supported



by the multi-function machine; and a sensor unit to detect operation states of individual peripheral devices in relation to the operations of the multi-function machine.

Murakami teaches an image printing apparatus, comprising: an interface unit to receive printing data transmitted from an external device (Fig. 1, PC interface circuit 10) (col. 5, lines 63-67, col. 6, lines 1-20); an operating panel to support character and/or number inputs to enable various functions supported by the multi-function machine (Fig. 4, control panel and a display of the multi-function device) (col. 7, lines 12-16); and a sensor unit to detect operation states of individual peripheral devices in relation to the operations of the multi-function machine (image sensor in an image reading unit) (col. 5, lines 53-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teaching of Kawaguchi with the teachings of Mori to use a multi-functional peripheral to determine the location of the white line, since a multi-functional peripheral can perform printing functions.

21. Regarding Claim 9, Kawaguchi et al fails to teach an image printing apparatus, further comprising a facsimile unit, including: a modem to receive and transmit facsimile data from and to external devices connected to a Public Switched Telephone Network; and a Line Interface Unit to enable mutual communications between the modem and the Public Switched Telephone Network.

Murakami teaches an image printing apparatus, further comprising a facsimile unit (facsimile communication functions) (col. 6, lines 21-26), including: a modem to receive and transmit facsimile data from and to external devices connected to a Public

Switched Telephone Network (Fig. 1, modem 4); and a Line Interface Unit to enable mutual communications between the modem and the Public Switched Telephone Network (Fig. 1, NCU 2) (co. 5, lines 63-67, col. 6, lines 1-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teaching of Kawaguchi with the teachings of Mori to use a multi-functional peripheral to determine the location of the white line, since a multi-functional peripheral can perform printing functions.

22. Regarding Claim 10, Kawaguchi et al fails to teach an image printing apparatus, wherein the facsimile data received through the Public Switched Telephone Network is transmitted to the control unit via the modem and the Line Interface Unit.

Kawaguchi et al fails to teach an image printing apparatus, wherein the facsimile data received through the Public Switched Telephone Network is transmitted to the control unit via the modem and the Line Interface Unit (NCU performs the network controls) (col. 28-29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the teaching of Kawaguchi with the teachings of Mori to use a multi-functional peripheral to determine the location of the white line, since a multi-functional peripheral can perform printing functions.

23. Regarding Claim 11, Kawaguchi et al teaches an image printing apparatus, further comprising a printing unit (printing heads 7), including: an ink cartridge to fire ink on the sheet (ink tanks); a carriage return motor to drive the ink cartridge (carriage motor 80); a line feed motor to transport the sheet to record print data (LF motor 88); a

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motor driver to drive the carriage return motor and the line feed motor according to the controls of the control unit (carriage portion 5); a printer head that reciprocates to the left and to the right directions to carry out printing jobs (printing head 7); a plurality of nozzles with discharge holes provided to the printer head (nozzles); a printer head driver to drive the printer head to fire ink via the nozzles (carriage 50) (page 4, paragraphs [0044]-[0048]).

24. Regarding Claim 12, Kawaguchi et al teaches an image printing apparatus, further comprising: a document position sensor to detect whether the sheet fed along a sheet feeding path reaches a set reference position (PE sensor) (page 4, paragraph [0044]); and a control unit to drive the line feed motor (LF motor 88) (page 4, paragraph [0044]).

25. Regarding Claim 13, Kawaguchi et al teaches an image printing apparatus, wherein the control unit stops driving the line feed motor for a predetermined period of time starting from the time when the white line would be produced on the sheet (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

26. Regarding Claim 14, Kawaguchi et al teaches an image printing apparatus, wherein the control unit controls the line feed motor for a predetermined period of time starting from the time when the white line is produced on the sheet to feed the sheet at a rate less than an set initially feeding rate (PE sensor detects back end of the print sheet, the speed of transportation is set) (page 6, paragraphs [0075]-[0076]).

***Conclusion***

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hanabusa et al. (US 6,824,239) discloses a printer with fast line-feed speed.

Adkins et al. (US 6,843,547) discloses a missing nozzle detection method and a sensor for an ink-jet printer.

Hanabusa et al. (US 6,926,381) discloses a printer with fast line-feed speed.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satwant K. Singh whose telephone number is (571) 272-7468. The examiner can normally be reached on Monday thru Friday 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



sks

Satwant K. Singh  
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